12 AMIDO BLACK

12.1 INTRODUCTION

Amido black or naphthalene black 10B is a protein indicator particularly sensitive to those proteins present in blood. While other techniques for the enhancement of blood impressions are available, they many pose serious health hazards or display a reaction for short durations. Amido black is a safer, permanent procedure which can be used on porous or non-porous surfaces. Amido black does prevent subsequent serological examination and therefore may only be used after serological examination of the evidence. However, amido black can be applied after cyanoacrylate fuming in many cases (see McCarthy and Grieve, 1989).

12.2 PREPARATIONS

12.2.1 Amido Black Working Solution

1. If distilled water is not available deionized water may be used.
2. Dissolve 2.0 grams of amido black 10B in 100 milliliters of acetic acid.
3. Add 900 milliliters of methanol and thoroughly mix.

12.2.1.1 Rinse #1

1. Mix 100 milliliters of glacial acetic acid with 900 milliliters of methanol.

12.2.1.2 Rinse #2

1. Mix 50 milliliters of glacial acetic acid with 950 milliliters of distilled water.

12.3 MINIMUM STANDARDS & CONTROLS

Dye stains, such as Amido Black, work by discoloring latent impressions that are comprised of blood proteins. The Standards and Controls for the Amido Black consist of making a test impression on a non-porous, non-evidentiary item, by placing a small amount of blood on the item and allowing the blood to dry. Apply the Amido Black to the item and if a blue-black stain is observed, the Amido Black is working properly. Documentation of this process must be done in the form of a reagent log to include a batch number, established by month/day/year (060404). If additional batches are made on the same day, add an alpha character to the batch number (060404a, b, c, etc.). The batch number must be placed on the working container. Documentation of this process must be included in the examiner's notes by indicating a positive reaction by placing a (+) adjacent to the Amido Black process. This test must be performed for each case.

12.4 PROCEDURE OR ANALYSIS

All applications should be done in a fume hood.

1. Blood proteins must be fixed prior to amido black application. This can be accomplished by:

   - Baking the item at 100^{O}C for 30 minutes. Heat-sensitive items may be baked at a lower temperature for a longer time or another fixing technique attempted.

   -If the blood proteins are dried, by chemically fixing with methanol.

2. Amido black 10 B working solution is applied to the item by immersing the item in the working solution in a large tray, ensuring complete coverage of the area to be examined, or by using a squirt bottle.

   -The working solution should be agitated before evidence application as well as during the immersion process.

3. The item is then rinsed with the first rinse solution followed by the second rinse solution until optimum contrast has been observed.

4. The developed impressions are then photographed.

12.5 INTERPRETATION OF RESULTS

The blood impressions will be intensified and additional detail not previously visible may be revealed. Amido black is extremely stable; however, developed impressions should be photographically preserved. Dried impressions which lose contrast may be re-immersed in the second rinse solution and photographed.

12.6 REFERENCES

1. British Home Office. "Chemical Development and Intensification of Sweat and Blood Marks, Etc,"; May 1981.

2. Lee, Henry C.; Gaensslen, R. E., eds. *Advances in Fingerprint Technology*; Elsevier Science Publishers: NY, 1991.

3. Kent, Terry, ed. *Fingerprint Development Techniques*; Heanor Gate Publisher: Derbyshire, England, 1993.

4. McCarthy, Mary M.; David L. Grieve. “Preprocessing with Cyanoacrylate Ester Fuming for Fingerprint Impressions in Blood”; *Journal of Forensic Identification*, 1989, 39, 1, 23-32.

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